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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,216	10/28/2003	Paul T. Wingett	H0004820	7323

128 7590 11/21/2006

HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER

LUONG, VINH

ART UNIT PAPER NUMBER

3682

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,216

Applicant(s)

WINGETT ET AL.

Examiner

Vinh T. Luong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



Vinh T. Luong
Primary Examiner

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/28/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: Attachment

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1. The drawings are objected to because the drawings are not in compliance with 37 CFR 1.84. For example, the drawings should show the plane upon which a sectional view in Fig. 2 is taken. See 37 CFR 1.84(h)(3).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The disclosure is objected to because of the following informalities: the Brief Description of the Drawings should describe the plane upon which a sectional view in Fig. 2 is taken. See 37 CFR 1.84(h)(3). Appropriate correction is required.

3. Claims 1-6 are objected to because of the following informalities: the claims contain typographical or grammatical error, e.g., the recitation "configured to selectively engage and

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disengage, the shaft” in claim 1 should have been changed to “configured to selectively engage and disengage the shaft.” Appropriate correction is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear whether a confusing variety of terms, such as, “each auxiliary bearing assembly” and “a bearing assembly” in claim 8/7 refers to the same or different things. See MPEP 608.01(o) and double inclusion in MPEP 2173.05(o). Applicant is respectfully urged to identify each claimed element with reference to the drawings.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 5, 7, 9, and 11, and claim 8, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Hockney et al. (US Patent No. 6,262,505 B1).

Regarding claim 7, Hockney teaches a bearing assembly (Figs. 4, 5, and 7) for selectively engaging a shaft 118, comprising:

a bearing 136 having at least an inner race and an outer race (unnumbered in Fig.

4. *Ibid.* column 5, lines 11-31. See Attachment or “Att.”);

a bearing mount 152, 158 coupled to the bearing inner race (Att.);

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a sleeve 135 having at least an inner surface (Fig. 5, Att.), an outer surface (Att.), first and second ends (Att.), at least a portion of the sleeve inner surface (Att.) coupled to the bearing outer race (Att.);

one or more resilient seals 132, 133 coupled to the sleeve outer surface (Att.); and

one or more preload springs 98 (Fig.4) coupled to one of the first and second sleeve ends (Att.). See, e.g., column 4, lines 48-61.

Regarding claim 8, each auxiliary bearing assembly 136 comprises a rolling element bearing assembly having a plurality of spherical balls disposed between the inner and outer races. Note that the ball bearing that has a plurality of spherical balls disposed between the inner and outer races is conventional in the art as evidenced by the cited references. See, e.g., the ball bearing 32, 132 in US Patent No. 5,747,907 issued to Miller.

Regarding claim 9, the bearing assembly mount 152, 158 comprises:

a touchdown cup 158, 152 having at least an outer surface (Fig. 4, Att.) and an inner surface (Att.) that defines a cavity (Att.), the touchdown cup outer surface (Att.) coupled to the bearing assembly inner race (Att.), the touchdown cup cavity (Att.) surrounding at least a portion of the shaft 118 and dimensioned, upon translational movement of the bearing assembly mount 152, 158 to selectively engage the shaft 118. Ibid. column 4, line 48 through column 5, line 10.

Regarding claim 11, each resilient seal 132, 133 comprises an o-ring seal. Ibid. column 5, lines 16-31.

Regarding claim 1, Hockney teaches an energy storage flywheel system, comprising:

a housing assembly 45 (Fig. 1);

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a shaft 18, 118 disposed within the housing assembly 45;

a flywheel assembly 15 mounted on the shaft 118;

one or more primary bearing assemblies (i.e., an axial/radial magnetic bearing.

See column 5, lines 43-55) 150 disposed within the housing assembly 45, each primary bearing assembly 150 configured to selectively rotationally support the shaft 18, 118;

one or more auxiliary bearing assemblies (i.e., a touch down bearing) disposed within the housing assembly 45, each auxiliary bearing assembly configured to selectively rotationally support the shaft 18, 118 and including:

a bearing 136 having at least an inner race (Att.) and an outer race (Att.),

a bearing mount 152, 158 coupled to the bearing inner race (Att.), the bearing mount 152, 258 disposed adjacent to, and configured to selectively engage and disengage, the shaft 18, 118,

a sleeve 135 having at least inner and outer surfaces (Att.), first and second ends (Att.), at least a portion of the sleeve inner surface (Att.) coupled to the bearing assembly outer race (Att.) and at least a portion of the sleeve outer surface (Att.) coupled to the housing assembly 45 (by a plate 131),

one or more resilient seals 132, 133 coupled between the sleeve outer surface (Att.) and the housing assembly 45, and

one or more preload springs 98 coupled between the housing assembly 45 and one of the first and second sleeve ends (Att.).

Regarding claims 2, 3, and 5, see regarding claims 8, 9, and 11 above.

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockney et al.

Regarding claims 4 and 10, Hockney teaches the invention substantially as claimed. Moreover, Hockney teaches one or more grooves formed in the outer surface of a plate member that is in contact with the sleeve 135, and each resilient seal 132, 133 is disposed in at least one of the grooves.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange Hockney's one or more grooves in the outer surface of Hockney's plate member to the outer surface of Hockney's sleeve in order to seal the sleeve. The rearrangement of Hockney's one or more grooves as claimed would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995) citing *In re Gal*, 980 F.2d

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717, 719, 25 USPQ2d 1076, 1078 (Fed. Cir. 1992). See also legal precedent regarding rearrangement of parts in MPEP 2144.04.

11. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockney et al. in view of Miller.

Regarding claim 12, Hockney teaches the preload spring comprises the torsion spring 98 instead of spring washer(s).

Miller teaches the preload spring comprising one or more spring washers 36, 136.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace Hockney's spring by the spring washer(s) as taught by Miller. The use of spring washer(s) would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu, supra*. See also legal precedent regarding substituting equivalents known for the same purpose in MPEP 2144.06.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kralick (bearings 130, 132), Giles et al. (Fig. 6), and Sibley (seal 120 in Fig. 8).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 571-272-7109. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

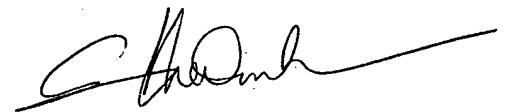
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

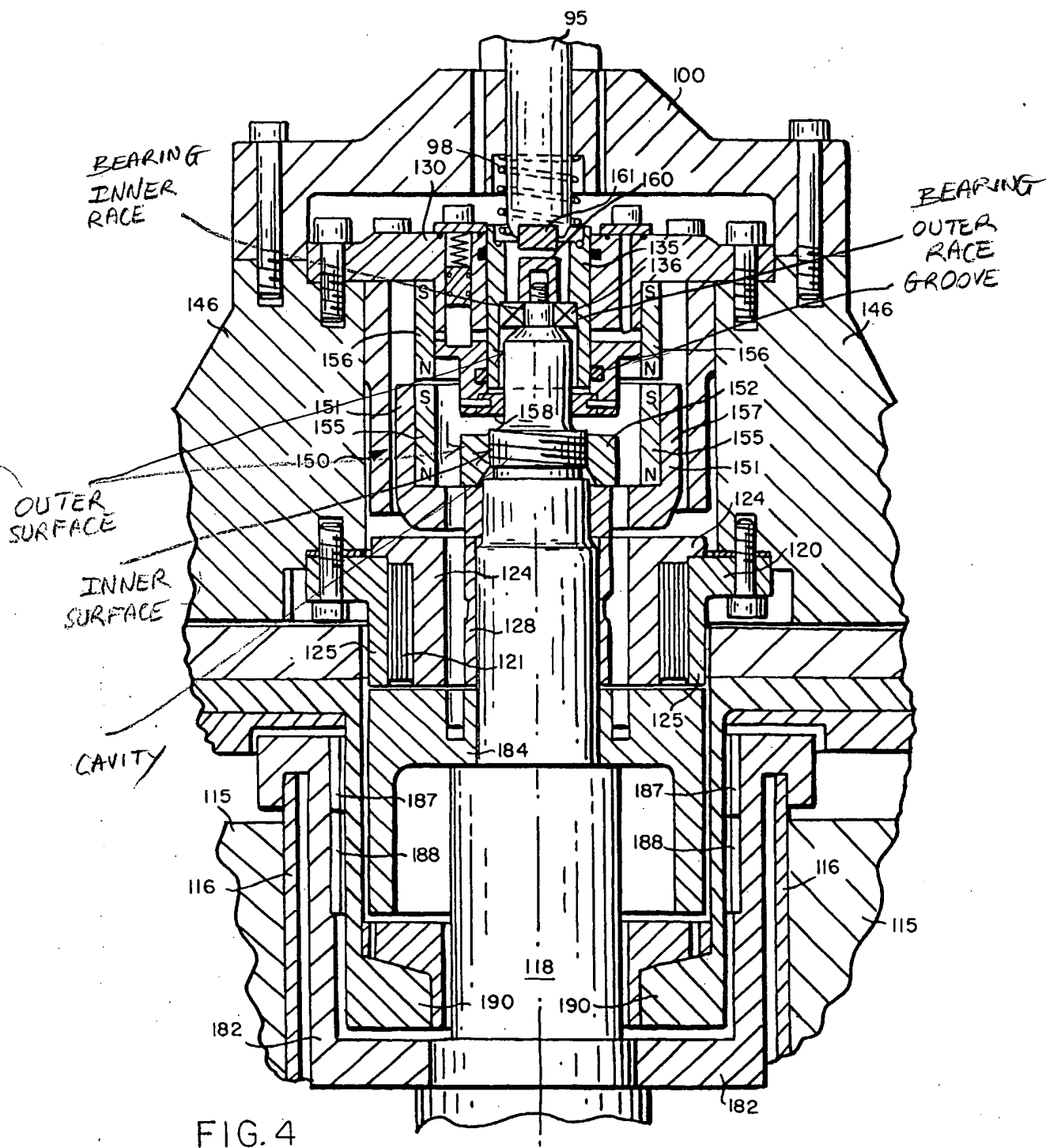
Luong

November 20, 2006



Vinh T. Luong
Primary Examiner

ATTACHMENT



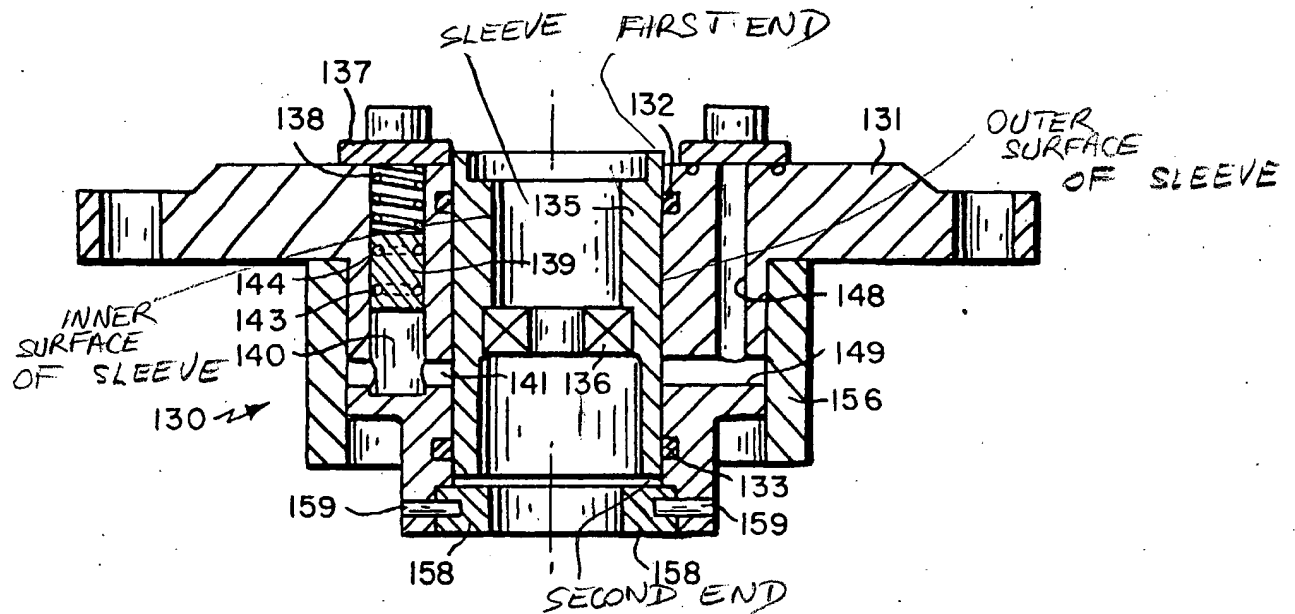


FIG. 5

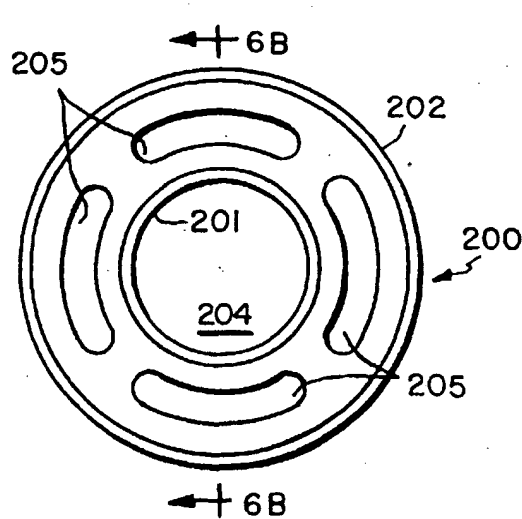


FIG. 6A

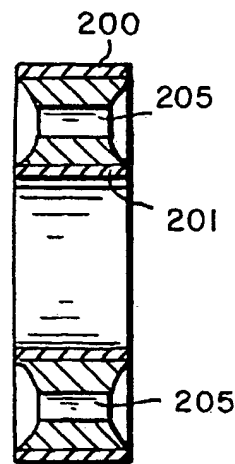
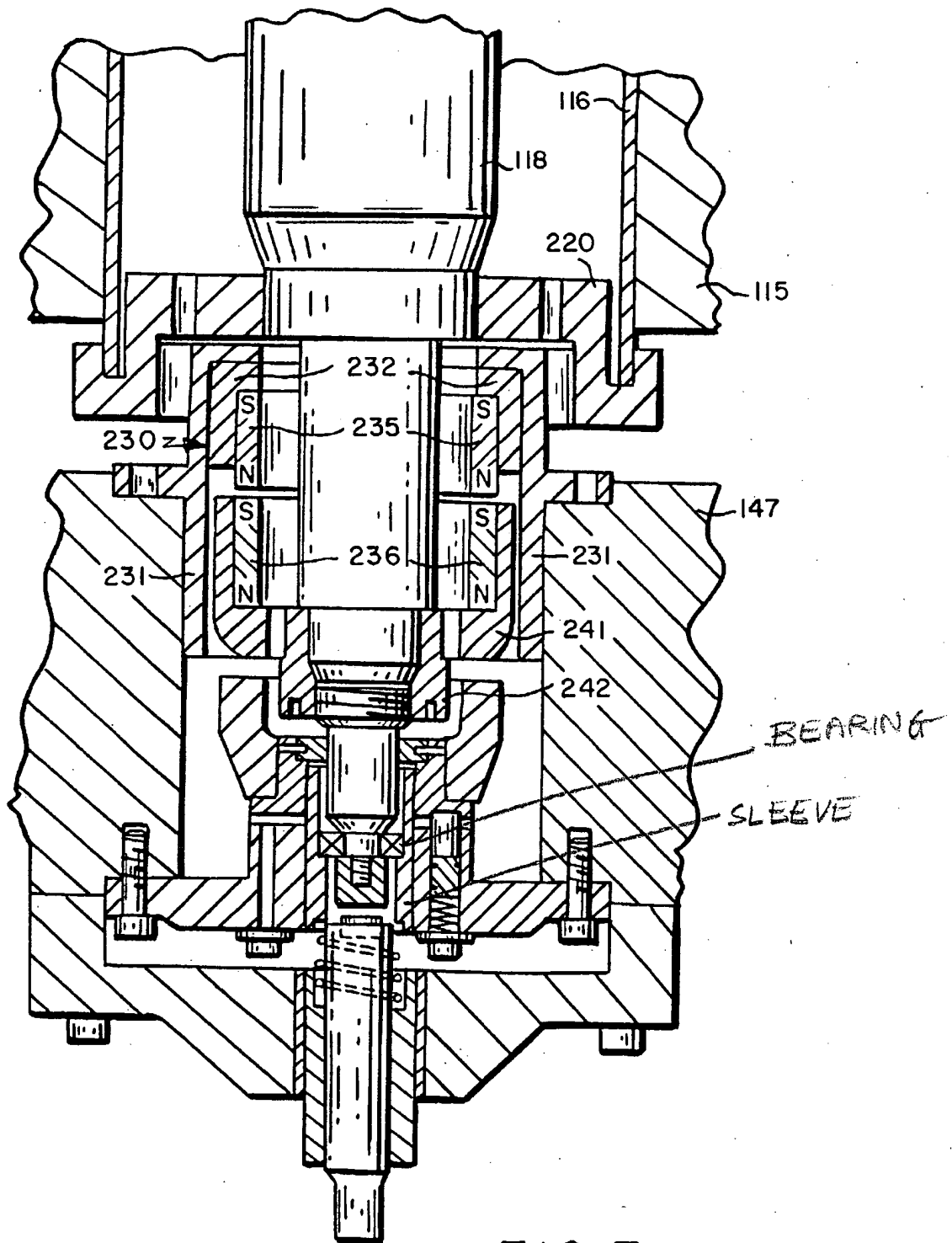


FIG. 6B



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